REMARKS

Claim 3 is objected to because of informalities stated in the Office Action. Claim 3 is amended above in a manner believed to overcome the objection. Therefore, reconsideration of the objection is requested.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Mollenkopf, *et al.* (U.S. Patent Number 6,377,786). Claims 2-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mollenkopf, *et al.* in view of Nevin (U.S. Patent Number 5,357,257). Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mollenkopf, *et al.* in view of Kameda, *et al.* (U.S. Patent Number 6,631,341). In view of the amendments to the claims and the following remarks, the rejections are respectfully traversed, and reconsideration of the rejections is requested.

In the present invention as claimed in claims 1 and 2, a filter characteristic measuring method includes generating an impulse signal and applying the impulse signal to a DUT having an analog filter through a digital channel.

In the present invention as claimed in claim 3, an analog filter characteristic method includes applying an impulse signal to an equalizing filter, and then obtaining an output response of the equalizing filter. The method further includes performing a differential and a fast Fourier transform (FFT) operation on the output response of the equalization filter so as to measure a boosting gain and a frequency response.

Claim 3 is amended to clarify certain features of the invention. Specifically, the claims are amended to clarify that the method includes performing a differential and a FFT operation on the output response of the equalization filter. It is believed that these amendments to the claims clarify the distinctions between the claimed invention and the cited references.

In the present invention as claimed in claims 4-6, a system for measuring a characteristic of a filter in a DUT employing an analog filter includes a digital channel that provides an impulse signal without applying a sine wave to the analog filter of the DUT. The system further includes a digitizer that receives an output signal of the analog filter and measures the characteristic of the

filter.

Claims 4-6 are amended to clarify certain features of the invention. Specifically, the claims are amended to clarify that the digital channel provides the impulse signal without applying a sine wave to the analog filter of the DUT. It is believed that these amendments to the claims clarify the distinctions between the claimed invention and the cited references.

Mollenkopf, *et al.* discloses a method of gain control of individual narrowband channels using a wideband power meter 236 and an output power measurement digital filter 234 (see Mollenkopf, *et al.* column 8, lines 19-36). The wideband power meter 236 receives an amplified signal that is transmitted by the antenna 112 and measures the power of the amplified signal. The output power measurement digital filter 234 receives the output signal from the wideband power meter 236. The output power measurement digital filter 234 is a composite of both an analog and digital filter that is applied to the signal that is output from the wideband power meter 236. The analog filter is internal to the wideband power meter 236. Thus, the wideband power meter 236 includes the analog filter.

Mollenkopf, *et al.* fails to teach or suggest applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2. Instead, in Mollenkopf, *et al.*, the wideband power meter 236 which includes the analog filter receives the signal to be transmitted by the antenna 112, which is not an impulse signal, as claimed. Further, in Mollenkopf, *et al.*, the wideband power meter 236 which includes the analog filter is not a DUT, as claimed. Rather, in Mollenkopf, *et al.*, the wideband power meter 236 is used to determine the power of the applied signal. Further, the wideband power meter 236 and the output power measurement digital filter 234 in Mollenkopf, *et al.* are determining the power of the signal, rather than measuring a filter characteristic, as claimed.

Mollenkopf, *et al.* further fails to teach or suggest a system for measuring the characteristic of a filter in a DUT employing an analog filter including a digital channel for providing an impulse signal without applying a sine wave to the analog filter of the DUT, as claimed in claims 4-6. Instead, in Mollenkopf, *et al.*, the wideband power meter 236 including the analog filter provides the power of the signal transmitted by antenna 112 to the output power

measurement digital filter 234, so as to measure the power of the signal. Thus, the wideband power meter 236 is not providing an impulse signal to an analog filter of a DUT, as claimed.

Mollenkopf, *et al.* fails to teach or suggest certain elements of the invention set forth in the claims. Specifically, Mollenkopf, *et al.* fails to teach or suggest applying an impulse signal to a DUT having an analog filter through a digital channel to measure a filter characteristic, as claimed in claims 1 and 2. Mollenkopf, *et al.* further fails to teach or suggest a system for measuring the characteristic of a filter in a DUT employing an analog filter including a digital channel for providing an impulse signal without applying a sine wave to the analog filter of the DUT, as claimed in claims 4-6. Therefore, it is believed that the claims are allowable over the cited reference, and reconsideration of the rejections of claims 1 and 4 under U.S.C. 102(b) as being anticipated by Mollenkopf, *et al.* is respectfully requested.

Nevin discloses an apparatus for equalizing channels in a multi-channel communication system including equalization filters 130, 230, 330 and 430 outputting signals to a adaptive nulling processor 600. A channel match processor 500 calculates the respective equalizing filter tap weight vectors using FFTs which are employed in equalization filters 130, 230, 330 and 430 (see FIGs. 1 and 2, column 5, lines 7-17).

As noted in the Office Action, Mollenkopf, *et al.* fails to teach or suggest an equalization filter and performing a differential and a FFT operation on an output response of an equalization filter, as claimed in claim 3.

Nevin fails to teach or suggest performing a differential and a FFT operation on an output response of an equalization filter. Instead, in Nevin, a channel match processor 500 calculates the respective equalizing filter tap weight vectors using FFTs which are input to equalization filters 130, 230, 330 and 430.

Hence, neither of Mollenkopf, *et al.* and Nevin teaches or suggests certain elements of the present invention set forth in the claims. Specifically, neither of the references teaches or suggests performing a differential and a FFT operation on the output response of the equalization filter, as claimed in amended claim 3. Accordingly, there is no combination of the references which would provide such teaching or suggestion.

Neither of the references, taken alone or in combination, teaches or suggests the invention set forth in the amended claims. Therefore, it is believed that the amended claims are allowable over the cited references, and reconsideration of the rejections of claim 3 under 35 U.S.C. 103(a) based on Mollenkopf, *et al.* and Nevin is respectfully requested.

Nevin fails to teach or suggest applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2. Nevin further fails to teach or suggest a system for measuring the characteristic of a filter in a DUT employing an analog filter including a digital channel for providing an impulse signal without applying a sine wave to the analog filter of the DUT, as claimed in claims 4-6.

Hence, neither of Mollenkopf, *et al.* and Nevin teaches or suggests certain elements of the present invention set forth in amended claims 1 and 2. Specifically, neither of the references teaches or suggests applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2. Further, neither of the references teaches or suggests a system for measuring the characteristic of a filter in a DUT employing an analog filter including a digital channel for providing an impulse signal without applying a sine wave to the analog filter of the DUT, as claimed in claims 4-6. Accordingly, there is no combination of the references which would provide such teaching or suggestion. Neither of the references, taken alone or in combination, teaches or suggests the invention set forth in the amended claims. Therefore, it is believed that the amended claims are allowable over the cited references, and reconsideration of the rejections of claims 2 and 6 under 35 U.S.C. 103(a) based on Mollenkopf, *et al.* and Nevin is respectfully requested.

Kameda, *et al.* fails to teach or suggest a system for measuring the characteristic of a filter in a DUT employing an analog filter including a digital channel for providing an impulse signal without applying a sine wave to the analog filter of the DUT, as claimed in claims 4-6.

Hence, neither of Mollenkopf, *et al.* and Kameda, *et al.* teaches or suggests certain elements of the present invention set forth in the claims. Specifically, neither of the references teaches or suggests a system for measuring the characteristic of a filter in a DUT employing an analog filter including a digital channel for providing an impulse signal without applying a sine

wave to the analog filter of the DUT, as claimed in claims 4-6. Accordingly, there is no combination of the references which would provide such teaching or suggestion. Neither of the references, taken alone or in combination, teaches or suggests the invention set forth in the amended claims. Therefore, it is believed that the amended claims are allowable over the cited references, and reconsideration of the rejections of claim 5 under 35 U.S.C. 103(a) based on Mollenkopf, *et al.* and Kameda, *et al.* is respectfully requested.

In view of the amendments to the claims and the foregoing remarks, it is believed that all claims pending in the application are in condition for allowance, and such allowance is respectfully solicited. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

Date: 8/22/05

Mills & Onello, LLP
Eleven Beacon Street, Suite 605
Boston, MA 02108
Telephone: (617) 994-4900
Facsimile: (617) 742-7774
J:\SAM\0476\amenda\amendmenta.wpd

Steven M. Mills
Registration Number 36,610
Attorney for Applicants